



# Mount Rainier National Park

## Sister Mountain Project

### String A Volcano

<b>Overview</b>	Most of the world's active above-sea volcanoes are located near convergent plate boundaries where subduction is taking place. Through books and online research, students will summarize and transfer information onto the mobile volcano pieces for Japan and the Cascade Mountain Range. Students then should be able to compare and contrast the history and major features of the volcanoes. This lesson is adapted from USGS Living with a Volcano in your Backyard curriculum.
<b>Grade Level</b>	5+
<b>Objectives</b>	<p>Students will:</p> <ul style="list-style-type: none"><li>• Become familiar with important aspects about each of the 20 volcanoes</li><li>• Identify sources of information about Cascade and Japan Arc volcanoes</li><li>• Summarize main ideas to compare facts</li></ul>
<b>Setting</b>	Classroom
<b>Timeframe</b>	90 minutes
<b>Materials</b>	art supplies (crayons, pencils, markers), student pages "Sister Mountain: String of Volcanoes," glue, string, scissors
<b>Vocabulary</b>	caldera, cinder cone, strombolian eruption, plinian eruption, eruption, debris avalanche, debris flow, lahar, landslide, lava dome, lava flows, pyroclastic flow, shield volcano, steam explosion, stratovolcano, tephra, volcanic ash
<b>Standards</b>	<p><i>Social Studies</i></p> <p>1- The student uses maps, charts, and other geographic tools to understand the spatial arrangement of people, places, and environments on Earth's surface</p> <p>1.1 – use and construct maps, charts, and other resources to gather and interpret geographic information</p> <p>1.1.2.a – use globes, a variety of map projections, satellite imagery, and Geographic Information System (GIS) data to interpret information from a spatial perspective</p>

	<p>1.2 - recognize spatial patterns on Earth's surface and understand the processes that create these patterns</p> <p>1.2.2a – locate physical and human features and events on maps and globes</p>
<b>Background</b>	<p>Japan's first document historical eruption was from Aso-san, by far the most active in the country, in 553 CE. By the time of Japan's largest historical eruption (<b>Towada</b>, 915 AD), 17 Japanese volcanoes had been documented in eruption, more than the rest of the world combined (including 10 in Europe). The eruption of Mount Shasta in 1786 was the first recorded eruption in the Cascade Mountain Range. The first authenticated eyewitness report of a volcanic eruption along the Cascadian Range was made in March 1835 by Dr. Meredith Gairdner, while working for the Hudson's Bay Company stationed at Fort Vancouver.</p> <p><b>Teacher Tips</b></p> <p>Volcanoes can be named differently over time and often appear to have alternate names based on cultural view point. When in doubt, refer to the latitude and longitude of the mountain as a method to confirm the information matches to the volcano being researched.</p>
<b>Procedure</b>	<ol style="list-style-type: none"> <li>1. Provide each student with "A String of Volcanoes" student activity sheet and "A String of Volcanoes" mobile pieces.</li> <li>2. Students research information from Internet, library resources, or USGS Fact Sheet and write it on mobile pieces before coloring and assembling mobile. Most answers can be found at the following website:</li> <li>3. Construct the mobile as described in the instructions on the student activity sheet.</li> </ol>
<b>References/ Resources</b>	<p><a href="http://www.volcano.si.edu/world/volcano.cfm?vnum=0802-11">http://www.volcano.si.edu/world/volcano.cfm?vnum=0802-11</a>  Simkin and Siebert, (1994). Volcanoes of the World. Tucson, Arizona: Smithsonian Institution and Geoscience Press, Inc.</p> <p>Makoto Tamura. (2004). <u>Geophysical Observations in <i>Tarumi</i> Volcano, HOKKAIDO, JAPAN</u>. Kita-Ku, Sapporo: Geological Survey of Hokkaido.  <a href="http://info.geol.msu.ru/conf/kamchatka_2004/ab39en.doc">http://info.geol.msu.ru/conf/kamchatka_2004/ab39en.doc</a>  <a href="http://hakone.eri.u-tokyo.ac.jp/vrc/others/oshima.html">http://hakone.eri.u-tokyo.ac.jp/vrc/others/oshima.html</a></p>